

## REMARKS

Review and reconsideration of the final Office Action mailed June 8, 2010 (the “Office Action”), is respectfully requested in view of the above amendments and the following remarks. Although no additional fees are believed due, the Commissioner is hereby authorized to charge any deficiency or credit any surplus to Deposit Account No. 14-1437.

At the time of the Office Action, claims 1, 7-18, 24-29, 31 and 36 were pending, with claims 1, 7-18, 31 and 36 being drawn to an elected invention. All claims were rejected under 35 U.S.C. §103(a). By this Amendment, claim 1 is amended to add the subject matter of claim 36, which is cancelled. As the Amendment places the application in better condition for allowance and/or appeal, entry of the amendment is respectfully requested. MPEP 714.12; 37 CFR §1.116

The amendments presented herein have been made solely to expedite prosecution of the instant application to allowance and should not be construed as an indication of Applicants’ agreement with or acquiescence to the Examiner’s position. Accordingly, Applicants expressly maintain the right to pursue broader subject matter through subsequent amendments, continuation or divisional applications, reexamination or reissue proceedings, and all other available means. The amendments and rejections are addressed below in more detail.

### Claim Rejection - 35 U.S.C. §103

In the Office Action, claims 1, 7-12, 17-18, 31 and 36 are rejected under 35 U.S.C. §103(a) as being obvious in view of GB 1057840 (hereinafter “GB”) in view of Japanese Publication No. 2003-144050 by Okada *et al.* (hereinafter “Okada”), German Publication No. DE 198 26 143 to Suwelack Nachf (hereinafter “DE ‘143”), and U.S. Patent No. 6,231,907 by Kino *et al.* (hereinafter “Kino”). Prior to addressing the cited references, Applicants wish to review the subject matter of amended claim 1, which is drawn to:

1. (currently amended) A method of extracting volatile components applicable for a food or drink by which volatile components are obtained by steam extraction of tasty materials, including roasted coffee beans or tea leaves following tea manufacturing, the method comprising:

directing super heated steam produced from deoxygenated water into contact with the tasty material, wherein the directing is carried out within a sealed container under an inert gas atmosphere;

recovering the steam after said directing steam, wherein the steam extraction is carried out using the super heated steam that is set to a temperature higher than 140°C but no higher than 500°C, wherein a steam flow rate of 0.3 to 30 kg/h is used per 1 kg of tasty material, wherein said directing steam is carried out for 5 to 30 minutes, wherein a recovery rate of the volatile components by the steam extraction is 0.01 to 10% by weight as a solid with respect to the tasty material, and wherein the super heated steam is used at normal pressure;

obtaining an aqueous extract by water extraction of the tasty material following the steam extraction; and

mixing the aqueous extract and the volatile components.

Amended claim 1 is drawn to a method of extracting volatile components obtained by steam extraction from tasty materials. The method includes directing super heated steam into contact with the tasty material that includes roasted coffee beans or tea leaves following tea manufacturing; and recovering the steam after directing the steam into contact with the tasty material. The super heated steam is produced from deoxygenated water and is directed into contact with the tasty material within a sealed container under an inert gas atmosphere. The super heated steam extraction is carried out using super heated steam at normal pressure (*i.e.*, one atmosphere) that is set to a temperature higher than 140°C but no higher than 500°C and the steam flow rate is 0.3 to 30 kg/hr per 1 kg of tasty material. The directing step is carried out for 5 to 30 minutes and the recovery rate of the volatile components by the steam extraction is 0.01 to 10% by weight as a solid with respect to the tasty material. Following the steam extraction, an aqueous extract of the tasty material is obtained. The aqueous extract and the volatile components are then mixed.

The extracted volatile components are applicable for a food or drink. The super heated steam is different from saturated steam. As explained in the Specification:

Super heated steam is formed without increasing the pressure applied to the aforementioned saturated water vapor while continuing to heat. This super heated steam is obtained by heating saturated water vapor formed by boiling liquid water in a boiler or by electromagnetic induction heating with a burner, electric heater or electromagnetic induction heating device. When heating the aforementioned

saturated water vapor, it is possible to heat while pressurizing the saturated water vapor. However, since it is difficult to control the temperature of the super heated steam by reducing pressure following pressurization, it is preferably heated without pressurizing. An electromagnetic induction heating device normally forms super heated steam by heating a ceramic or metal heating element by electromagnetic induction heating at a frequency of 100 Hz to 100 kHz, and contacting saturated water vapor with the surface of the heating element.

Specification, Page 6, Lines 8-24.

GB discloses that of a quantity of ground, roasted coffee, two-thirds (2/3) was subjected to a steaming process at atmospheric pressure. The steamed coffee was extracted with water together with the unsteamed, ground, roasted coffee. Of the extract obtained, 70% was subjected to spray drying. The remainder of the extract was concentrated to a dry content of about 30% by means of a vacuum film evaporator, and added to the steam distillate, whereafter the resultant mixture was freeze dried. *See GB, Column 2, Example.*

GB discloses the steaming process at atmospheric pressure. However, GB fails to disclose that the steam extraction is carried out using the super heated steam, much less the claimed super heated steam is produced from deoxygenated water. *The use of the claimed super heated steam produced from the deoxygenated water prevents oxidative deterioration of the volatile components, which results in volatile components having superior aroma properties.*

With respect to Okada, the Office Action asserts that "Okada ('050) teaches using super heated steam to process/roast coffee at a temperature from 200°C to 400 °C for 5 to 15 minutes (See Abstract and paras.10-16 and 27)." This assertion is incorrect and is based on a misinterpretation of Okada. The abstract of Okada describes heating a **saturated** steam at 200 to 400°C. As explained in the relevant passage from the specification reproduced above (Specification, Page 6, Lines 8-24), saturated steam is different from the super heated steam. In addition, Okada states in paragraph [0014] that coffee beans are roasted with the roasting machine which is not sealed. This is also different from the claimed method in which the directing step is carried out within a sealed container. Accordingly, Okada fails to disclose or suggest the claimed method, which includes directing super heated steam, much less the claimed super heated steam produced from deoxygenated water.

DE '143 discloses a process for manufacturing plant extracts where crushed plant parts are contracted first with water vapor, then the vapor is cooled and the condensate is obtained as aroma. The

remaining plant parts are then extracted in a multistage process with increasing temperatures. *See DE '143, Claim 1.* As a first step, the crushed plant parts such as coffee beans are immersed with *saturated water vapor* for stripping the aroma. Thus, while DE '143 discloses using saturated water vapor, DE '143 does not disclose or suggest using the claimed super heated steam, much less super heated steam produced from deoxygenated water.

Kino discloses that "Deoxidated water is as such or heated to be water, warm water, hot water, boiling water or steam falling between 0 and 130°C and added to coffee powder to brew and extract it." *See Kino, Column 5, ln. 21-24.* However, Kino does not disclose using super heated deoxygenated water set to a temperature higher than 140°C but no higher than 500°C.

In summary, none of the cited references disclose or suggest the claimed method, which includes the claimed super heated steam produced from deoxygenated water under the specific conditions claimed. In addition, the claimed method results in superior aroma properties because the super heated steam produced from oxygenated water prevents oxidative deterioration of the volatile components. In view of the foregoing amendment, it is respectfully submitted that the pending claims are in condition for allowance and withdrawal of the pending rejection.

Claims 13-14 are rejected under 35 U.S.C. §103(a) as being obvious in view of GB, Okada, DE '143 and Kino, further in view of U.S. Patent No. 5,417,993 by Takano (hereinafter "Takano"); and Claims 15-16 are rejected under 35 U.S.C. §103(a) as being obvious in view of GB, Okada, DE '143 and Kino, further in view of Japanese Publication No. 2003-0033137 by Kazuyuki Yamashita *et al.* (hereinafter "Kazuyuki").

Takano discloses that coffee beans are roasted until a desired L value is obtained. The L value is 15 to 30. However, Takano fails to disclose or suggest the claimed feature regarding the super heated steam produced from deoxygenated water.

Kazuyuki discloses that a first volatile flavor (A) is extracted from a tasty beverage such as coffee or tea by steam distillation and a second flavor (B) is obtained by treating the tasty beverage

with a gas-liquid countercurrent contact apparatus. However, Kazuyuki fails to disclose or suggest the claimed feature of super heated steam produced from deoxygenated water.

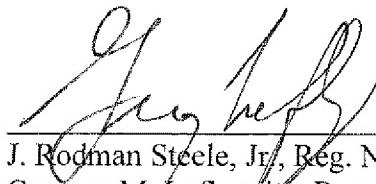
In view of the foregoing, it is clear that neither Takano nor Kazuyuki correct the deficiencies of the cited are identified above. Accordingly, Applicants respectfully request that all rejections based on combinations of GB, DE '143, Okada, Kina, Takano and Kazuyuki be withdrawn.

### **Conclusion**

For at least the reasons set forth above, the independent claims are believed to be allowable. In addition, the dependent claims are believed to be allowable due to their dependence on an allowable base claim and for further features recited therein. The application is believed to be in condition for immediate allowance. If any issues remain outstanding, Applicant invites the Examiner to call the undersigned (561-847-7806) if it is believed that a telephone interview would expedite the prosecution of the application to an allowance.

Respectfully submitted,

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